

**REMARKS**

Reconsideration of the present application is respectfully requested in view of the following remarks.

**Claim Rejections under 35 U.S.C. §103(a)**

The Examiner also rejected claims 1-4 under 35 U.S.C § 103(a) as being unpatentable over Piriwe (EP 1 022 226 A1) using (US Patent 6,528,152 as English translation) in view of Walter et. Al. (2004/0256769). Specifically, the Examiner asserts that “[w]alter teaches to use the heat of unfocused laser beam to modify the surface of expanded (i.e. foamed) thermoplastic material. . . . It would have been obvious to a person of ordinary skill in the art at the time of invention to modify Piriwe’s invention by irradiating the stopper with an unfocused laser beam for changing the color of the pigments of a foamed stopper. . .” Applicant respectfully traverses the Examiner’s rejection and submits that the Examiner failed to illustrate that a person of ordinary skill in the art would have been motivated to combine the Piriwe and Walter references to achieve the claimed invention.

The Examiner admits that Piriwe fails to teach using an unfocused laser beam to change the color of the stoppers. The Examiner asserts that Walter teaches the use of the heat of an unfocused laser beam to modify the surface of expanded thermo plastic material, stating:

[w]alter further teaches unfocused laser for treating a surface since it is “relatively insensitive to the distance between the laser turn-down mirror and the surface being treated, therefore the laser has a long “depth of field” along the vertical axis” and it is also not limited to a planar surface and is well suited for 3-D surfaces [0061]. It would have been obvious to a person of ordinary skill in the art at the time of invention to modify Piriwe’s invention by irradiating the stopper with an unfocused laser beam for changing of the color of the pigments of a foamed stopper, because as noted earlier, Walter, drawn to heat treating a 3-D thermoplastic foamed, teaches that unfocused laser beam is “relatively insensitive to the distance between the laser turn-down mirror and the surface being treated, therefore the laser has a long “depth of field” along the vertical axis”, which is excellent for irradiating three-dimensional articles [0061] such as cork stoppers.

Applicant respectfully disagrees with the Examiner's characterization of Walter. Walter describes a process that employs a laser to surface-modify an expanded PTFE structure to create a macro-roughened surface that has the capability to remain microporous throughout. The process creates a ridge and valley structure on the surfaces of devices that includes unique gnarled nodes along valley floors. Walter discloses the use of an unfocused laser beam "*to both **alter and remove** selected expanded PTFE fibrils and nodes, resulting in a ridge and valley texture.*" See [0013] emphasis added. "*Laser energy for the present invention should be generated by an unfocused laser beam delivering **sufficient energy** to the PTFE surface **to cause PTFE surface alteration** in the manner described.*" See Present Application [0043] emphasis added. *The process of the present invention can be employed to establish ridge and valley structures of a wide variety of shapes and dimensions.* See Present Application [0057] emphasis added. Applicant respectfully submits that there is no discussion in Walter that an unfocused laser beam or any other process causes changes to the color of the pigments of a stopper. Moreover, as the language above indicates, Walter utilizes a laser for purposes of altering and removing portions of the stopper surface.

The claimed invention utilizes an unfocused laser beam to recolor thermally recolorable pigments of a plug made of foamed thermoplastic. There is no discussion in Walter of the use of an unfocused laser beam in order to recolor pigments. Applicant respectfully submits that Walter teaches away from an unfocused laser beam of the type claimed because the laser is used to alter and remove in comparison to a laser that recolors thermally recolorable pigments.

The Examiner also failed to show that there would have been a reasonable expectation of success from the suggested combination of Piriwe and Walter. The combination would not have resulted in the recoloring of thermally recolorable pigments because neither Piriwe or Walter

discloses the use of thermally recolorable pigments. Moreover, combining Piriwe with the unfocused laser beam process described in Walter would have resulted in a process that alters and removes portions of the surface of the plug, problems that the present invention overcomes. *These problems have to do with the effects of the laser on the foamed plastic, which behaves in a manner completely different from the same plastic in a densely cast mold. In particular, there is a roughening of the surface due to the destruction of the topmost (outermost) layer, leading to sealing problems and, at least, leading to an optically unattractive appearance, which is not desired particularly when used to cork wine bottles, and in many cases such cannot be accepted.* See Present Application [0008]. Applicant respectfully submits that there would have been no reasonable expectation of success from the suggested combination of Piriwe and Walter.

In view of the above amendments and remarks, Applicant respectfully requests reconsideration of claims 1-4 and withdrawal of the rejection under 35 U.S.C § 103(a) as being unpatentable over Piriwe (EP 1 022 226 A1) using (US Patent 6,528,152 as English translation) in view of Walter et. Al. (2004/0256769).

**Claim Rejections under 35 U.S.C. §112**

The Examiner also rejected claims 3 and 4 under 35 U.S.C §112 second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant respectfully submits that claims 3 and 4 have been amended and are now in condition for allowance.

Applicant respectfully submits that claims 1-4 are in condition for allowance and a notice to that effect is earnestly solicited. If the Examiner believes a telephone conference would advance the prosecution of this application, the Examiner is invited to telephone the undersigned at the below-listed telephone number.

Please grant any extensions of time required to enter this response and charge any additional required fees or credit any overpayments to our deposit account 13-2725.

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